

The Ballarat Naturalist

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Mosses and Lichens: Nature's Carpet

By Emily Noble

In preparing this talk and sifting through my vast collection of natural history images to find images to illustrate it, I realised that mosses, lichens and liverworts were really “the elephant in the room”. They appeared in almost all of my photos whether they featured orchids or other wildflowers, fungi, insects or landscapes, but were hardly ever the subject or focus of the photo.

They occur on all continents and in virtually every ecosystem from the driest to the wettest environments. This includes all of the ecological communities found in the Ballarat region, yet they rarely appear on our species lists and are almost non-existent in State or Federal databases containing flora and fauna records. Of the few records that do appear in the Atlas of Living Australia or the Victorian Biodiversity Atlas in our region, the overwhelming majority have been uploaded by field naturalists. Our records are incredibly important in getting these species on the map, but it is easier said than done.

As a beginner in the world of mosses and lichens, I find the terminology around their anatomy, structure and lifecycle a significant barrier to understanding, so I am going to avoid it where possible and stick to simple terms and photos to help everyone get on the first rung of the ladder to understanding how to recognise and identify them. Showcasing some of their roles and interactions will also hopefully encourage more interest in these key-stone species that can tell us a lot about the environment in which they are growing.

Whilst mosses and liverworts are classified as plants in the *bryophyte* taxonomic group (along with hornworts), lichens are a unique, composite life-form containing various combinations of fungi and algae and/or cyanobacteria.

In an area like ours, with a land-use history that has involved immense disturbance and upheaval of natural systems and the geology that underpins them, the ability of mosses and lichens to

colonise an extensive range of substrates is particularly important. Some species are pioneers with a key role in helping landscapes and their inhabitants recover and restoring conditions that facilitate the subsequent return of many other species.

Mosses and lichens have been an essential part of recovery across the goldfields with their ability to grow in contaminated soils or soils too shallow or poor in nutrients and moisture for other species. In growing on surfaces like concrete and bitumen, they transform the surface from an impermeable to permeable one, slowing and reducing run-off and erosion.

Colonising steep surfaces like embankments and railway cuttings, bush tracks and water races, they stabilise and hold the soil together. Scientific studies have shown that mosses and lichens can sequester six times the amount of carbon that plants can in a given area, making them incredibly important in efforts to slow the changing climate.

Mosses and lichens help soils retain moisture and provide places for seeds to lodge and can act as nurseries for young plants. Sometimes, however, the thickness/ cover of moss can inhibit germination and have a significant influence on the structure of vegetation in a particular area.

Mosses and lichens are food for the caterpillars of Lichen Moths (also known as Footman Moths), wallabies and kangaroos. They are home to countless invertebrates and are thus rich foraging habitats for insect-eating birds like Superb Fairywren, White-winged Chough, Grey Shrike-thrush, robins, magpies and Spotted Quail-thrush. The same goes for insect-eating reptiles, marsupials like Yellow-footed Antechinus and monotremes like echidnas.

They also constitute valuable materials to insulate and camouflage the nests of birds like White-browed Scrubwren, Yellow-faced Honeyeater, Eastern Yellow Robin and fairywrens.

Mosses are known as *resurrection plants*. They can appear completely dessicated but upon the application of water will hydrate almost instantly (i.e. within 30 seconds) and resume photosynthesis and other normal functions. An experience recorded in the excellent field guide “Mosses of dry forests in south eastern Australia” by Cassia Read and Bernard Slattery, showed that some creatures that live in moss can do a similar thing. When they moistened a

herbarium sample of moss that had been dried 59 years ago, a microscopic rotifer re-animated and resumed normal activity.

Mosses can propagate themselves vegetatively, with broken-off stem-tips forming new plants with the ability to produce rhizoids (the anchoring structures that look like simple roots but don't take-up water or nutrients like roots do). Keep an eye out for these *brood plants* on mats of mosses.

Take note of what they are growing on: is it rock, earth, wood, bone or an unnatural substrate? This can be an important diagnostic feature that can help you narrow down the possibilities for species identification, although some mosses and lichens are not at all choosy about their substrate. Try to observe if it is north or south facing too.

What is their growth form: a tuft, a cushion, a dangling weft, a mat or a turf? Notice their colour. Qualify the "greenness". Like leaf shape and arrangement, it is an important feature characteristic of particular species, but remember, it will vary significantly between a dry specimen and a hydrated plant.

If you're lucky, the moss will have fruiting bodies, the male flower-like rosettes or the female capsules on a stalk. The shape of the capsules helps with identification. They can, however, change colour and angle dramatically as they mature, and they change shape too when the caps drop off to release the spores. A good field guide like "Mosses of dry forests" mentioned earlier shows them at various stages of development.

When it comes to lichens, there are three main forms: crustose, foliose and fruticose. Crustose lichens are just as they sound: crust-forming, often on stone or bark (i.e. Gold-dust Lichen). They can simply look like a powdery coating but take a closer look and you may spot the fruiting bodies. As with mosses, taking note of colour is important for identification.

Foliose lichens also hold close to the material upon which they are growing, but the presence of flattened leaves of varying hues can be observed. They include the ruffle lichens and shield lichens. The rounded splash cups held close to the surface contain the spores which are primarily spread by raindrops.

Fruticose lichens have fruiting bodies that look often like goblets or spikes. Notice the texture and size of them, whether they are

branched, their colour and the colour of the fruiting tips where applicable. This group includes Bearded Lichens, Coral Lichens and the many *Cladonia* species, some of which are commonly known as Pixie Cup Lichens.



Pixie Cup lichens

Whilst we are looking at nature's carpet, I'll just give a quick mention to liverworts too. Without any structural components, they hug the surface on which they are growing. Leafy liverworts like *Lophocolea* have distinctive fruiting bodies nicknamed "balls on a stick" because they look like a shiny black ball on a whitish, translucent stick until they open to release their spores, leaving the four segments of the capsule looking like a brown star.



Balls on a stick

The fruiting bodies of fleshy liverworts like *Marchantia* look like tiny green umbrellas with a surface that is reminiscent of a strawberry.

I hope that when you are next out in a park or your garden, you notice and appreciate nature's amazing carpet, its diversity and significance, and start getting-your-eye-in to differentiating between mosses, lichens and liverworts and the species they include.

Field Nat's Excursion Report July 9, 2023

Moss & lichen study: Surface Hill Historic Area, Smythesdale

led by Emily Noble

Report by Sharon Lorimer

The weather report coming into the day was not the best, yet the field naturalists were determined to spend the day playing together and no cancellation was in sight. A group leaving Gillies St met the group waiting at Surface Hill at 10am. There was excitement in the air as a full day was planned. It was lovely to see everyone dressed in full Ballarat winter gear, hardly a section of skin to be seen – with beanies, gloves, coats, ski-like boots & wet weather pants; there was no turning back now.

With anticipation and after a quick briefing by our leader Emily, we headed off moving from one side of the track to the other, with chatter & discussion of quickly-found mosses. Everyone surrounded the findings, down on their knees with magnifying lenses & mirrors in hand. Around lots of oooh's and aaaah's, Emily was able to identify & tell the story of these amazing mosses.

Things were moving quickly with so many finds, Emily scooting from one member to another explaining the find, filling us all with amazing details and information so that you just wanted to learn more. There was Juniper Haircap Moss, Golden Feather-moss and Yellow-green Broom-moss. Soon, Andy, who had been ducking under trees exclaimed with excitement he had found a Cypress-leaved Plait-moss.

Everyone's attention was suddenly diverted from mosses and lichens by an unusual-looking fungus: the parasitic Vegetable Caterpillar. The catch cry began very early on: if Emily was busy the call went out to Les, the man who knew fungi just by a glance, a touch or a peek of its underbelly with his trusty mirror. Les quickly sized up his target, stating the colour, the type of habitat, the configurations and size; you could see the identity developing in his head as he would slowly open his field guide then quietly suggest a name.

When Emily spotted a cream-coloured, convoluted, half-buried fungus nearby, there was much excitement. This was a fungus she had only seen once before on her block in Scarsdale. She remembered that it was uncommon but struggled to find the name. Something like Hypnum? No, that's a moss. Hydnum? No, that's the Hedgehog Fungi (perhaps we should call it Echidna Fungi in Australia?) that we were to find later in the day. Everyone looked to

Les. When they saw his puzzled expression, everyone knew; everyone waited; this was not a common fungus. Les had never seen it before! The book needed to be consulted. Les was amazing. He would ID so many so quickly. However, there was a look of shock when Les lifted his head & stated “I’ve no idea” & just walked away. Sharon was left mouth wide open asking “What do you mean, what am I supposed write down”? Les just shrugged & continued walking, Sharon knew then that even the masters don’t get them all. There’s so much to learn, so much to see, so little time, as it was morning tea-time already.

Sharon was busy running along behind everyone like a little puppy dog asking dozens of questions, writing everything down & asking who made each exciting find. It was not long before it became so busy there was no way Sharon could keep track of who found what so concentrated on just photos & species names. Someone spotted Horse Dung Fungi near the carpark (a smaller specimen was coined *Donkey Dung Fungi*). Some too busy to take a break looked up and realised they were only 20m from the carpark. How can there be so many species in such a small area? The journey continued.

After morning tea, we found a mound covered in *Baeomyces heteromorphus*, a fruticose lichen with pale pink jelly-like fruiting bodies beside a Green Goblin. It soon became obvious that Sheree had some kind of magical talent at finding the smallest & most amazing of specimens, somehow spotting the little Red Velvet Mite and a pair of Red-headed Cordyceps, an uncommon parasitic fungus.



Just before lunch, an excellent example of the shiny, black, ball-on-a-stick fruiting bodies of liverworts were found on the damp buttress of a tree trunk, with the brown, burst, star-like capsules also present on the same bryophyte. Bird’s-nest Fungi were examined and marvelled at using the special magnifying lens plugged into the iPad purchased with grant funds by the Club a couple of years ago. Nearby, tiny Cannonball Fungi growing on bark were scrutinised using our hand lenses. An unusually small, endangered Emerald-lip Greenhood was an exciting find by the trackside.

At 12.45, everyone pulled out their chairs & lunch boxes, the skies

cleared & the sun shone over Argyle Dam like a sign. The break was filled with lots of chatter & books being passed around to identify those elusive fungi that were missed, Emily so busy she didn't have time to eat lunch I'm sure. She found the mysterious, convoluted fungi in the field guide and triumphantly passed the book around: *Hydnoplicata convoluta*. Others expressed concern about the background conversation regarding the best way to bury a body: fire, water or decomposition – everything in the bush ends up decomposing if left long enough!

After lunch, the group walked past the dam & across the hill. Not so much to see here as the planned burn in autumn had removed most of the understorey. Roger found some orchid leaves excitedly confirmed by Emily as Hare Orchid leaves, the first time she had seen them at this site. With the autumn burn, there is a good chance that they will flower this spring. Others found a jungle of tiny Horse-hair Fungi and Flame Fungi *Clavulinopsis corallinorosea* (sounds like a Harry Potter spell). Everyone headed up to the area that had been heavily mined, to take a closer look at the range of lichen on the milky quartz rubble. The showers continued. People were damp, the track was slippery, tiredness was starting to set in & the passion for hunting fungi, mosses & lichens was dwindling.

Suddenly a dead burnt tree offered new thrills of lichens & mosses that we hadn't seen before. Emily was able to enthral the group with stories of the amazing splash cups and Pixie Cups of lichens, crustose lichens, orchids & regionally significant Bushy Clubmoss (no relation to moss) that only grow in that part of the reserve. Some people were lost in the damage that the mining caused & walked a little away from the group to explore. Others were on their knees again trying to take amazing photos to wow their friends later. However, it was clear to everyone that Carol who had spent the most time on the ground photographing, left no chance we could compete with such skills & talent. We can only look hopefully forward to the presentation of the results at the next Field Nat's meeting.

It was 3pm and the light was starting to fade along with everyone's energy. Some decided it was time to leave & safely made it back to their car; others who ventured back on their own were not so lucky. Two of the weary team were too busy gasbagging and missed the vital turn to see them pass the lake & safely back to the car. In the meantime, a search party was formed at the top of the hill as those still there called out for Les. Had we pushed his knowledge too far, had he fallen down an old mine shaft? He was there a minute ago

but now suddenly gone. Confusion showed on people's faces. Some thought he had headed back to the car; others were confused on what to do – a quick phone call answered it all. Les & John M were the two who missed their turn & ended up on Ross Creek Rd a kilometre away from where they should be. It was the quickest walk back to the cars ever seen by a group of field nats mostly over the age of 50, the sky ominous & the temperature icy.

It was amazing to see as John G. stepped up to the plate, throwing his arm in the air, keys in hand, indicating "I will rescue those lost". Driving out (I wish I could say at speed, but it was pretty casual) kicking mud along the way, leaving his other passengers behind to save his fellow naturalists. It gave a sense of comradeship that had been seen in spades throughout the day. When everyone was safely returned, it was a great opportunity to spread thanks for the day, thanks for the knowledge that was shared, thanks for the laughs, and thanks for the strange stories that will keep us up at night, or maybe not. It was certainly a great & successful day, with the expectation of what future expeditions will hold.

Photos from Carol Hall, Sharon Lorimer and Val Hocking



Woolly Bird's nest Fungi, also moss with fruiting body

List of species with common names found on the FNCRB field trip to Surface Hill Historic Area, Smythesdale July 9, 2023

A more detailed listing will be posted on our website

Mosses

Golden Feather-moss
Yellow-green Broom-moss
Cypress-leaved Plait-moss
Juniper Haircap Moss
Pipe-cleaner Moss

Fungi

Earth Cup
Coral Fungi x 3
Wood Oysterling
Flame Fungi
Fairy's Stool
Red-headed Cordyceps
Green Goblin
Elegant Blue Webcap
Little Ping Pong Bats
Vegetable Caterpillar
Hexagonia
Wood Hedgehog
Horsehair Fungi
Mycena
Woolly Bird's-nest Fungi
Rooting Shank
Earth Cups
Orange Earth Buttons
Black Tooth
Horse Dung Fungi
Orange Moss-cap
Rainbow Bracket
Hairy Curtain Crust
Split-gill Fungi
Shelf Fungus
Dung Roundhead
Hard-skinned Puffball
Cannonball Fungi

Lichen

Coral Lichen
Reindeer Lichen
Pixie Cup Lichens x 4
Gold-dust Lichen
Strap Lichen
Beard lichen

Basidiolichen

Yellow Navel
Lichen Agaric

Liverworts

Leafy Liverwort
Marchantia

Plants

Silver Wattle
Woolly Wattle
Blackwood
Myrtle Wattle
Coral Fern
Scented Sundew
Brown Stringybark
Trailing Goodenia
Hare Orchid
Bushy Clubmoss
Common Flat-pea
Emerald-lip Greenhood
Native Violet
Narrow-leaf Bitter-pea
Golden Bush-pea
Pink Bells
Small Grass-tree

Bill & Kathy Elders trip to South Australia part 2

On our way to *Karta Pintingga*, also known as Kangaroo Island, or “KI”, Kathy and I planned a stop at Naracoorte Caves and the nearby Bool Lagoon. This wetland is a “Mecca” of birding, second only perhaps to Lake Eyre or the Coorong in variety and diversity. On this trip, however, we were so disappointed to find **absolutely no water** in the famous basin. None, zero, zilch, zip. Dry as a chip! With heads bowed low, we drove slowly home to our accommodation with only a fiery sunset to cheer us.



At least the sunset over Bool Lagoon did not disappoint!

On the next day we set off from Naracoorte on our way to Coonalpyn where we were to catch up with

family members. My auntie had recommended we stop on the way at Cockatoo Lake, suggesting it was a nice place to see. As much as we were disappointed by the lack of water in Bool Lagoon, imagine our joy at the blue and shimmering fullness of Cockatoo Lake, replete with Cockatoos as well! Birds observed here were Sulphur-crested Cockatoo, Black-faced Cuckoo Shrike, Silver Gull, Whistling Kite, Grey Teal, Hoary-headed Grebe, White-faced Heron, and Australian Magpie.

Access to Kangaroo Island (or “KI”) is either by plane or by ferry which runs pretty much continuously throughout the year during daylight hours. Supplies of all sorts come by boat including adventurers and tourists such as we. The departure point is Cape Jervis at the south-western tip of the Fleurieu Peninsula. The ferry lands at Penneshaw. These venues are good spots for watching sea-birds such as gulls, cormorants and terns plus pelicans and herons, both in and over the water. With around 20 kms between the mainland and KI, quite a number of birds certainly travel between the two. In fact, the bird list for the island is considerable, boasting over 260 species.

During our travels we had a close encounter with a young wedge tailed eagle that had been snacking on a freshly killed ring-tailed possum. The bird, accompanied by a couple of Australian Ravens took flight briefly when we arrived to disturb it, but it flew across the road and found a small gum tree to roost and keep an eye on us. We spent maybe 5 minutes observing it before we continued on our way. We also saw dolphins and Australian Fur Seals (*Arctocephalus*

pusillus doriferus) near Penneshaw, and an unusual fungus occurring along the roadsides on the way to viewing sea lions at Seal Bay.

In the north, we visited Stokes Bay which had a “hidden” beach, a beautiful, white, sandy beach (revealed to us previously by Claire and Peter Dalman) after a tricky but interesting path through cliffs behind of a headland, requiring one to duck your head at times. Reminiscent of *Picnic at Hanging Rock*.

KI also had it’s very own Emu, but this unfortunately was extinct by 1827 due to hunting – a familiar story.



Probably the highlight of this trip was Seal Bay where we were able to view Australian Sea lions (left) (*Neophoca cinerea*) at fairly close range. Although the weather was not fabulous, the hour or so we spent viewing these quite cumbersome creatures on land was inspiring. In the water it is a different story as their rear “feet” are highly modified and serve as

flippers. You can see the many trails the sea lions make up and down the beach in the picture. They are quite active all day, especially the youngsters. One bold mother came right under our viewing platform and paused to look at us – and vice versa!

The Australian sea lion is one of seven sea lion species. They are the only carnivorous aquatic mammal endemic to Australian waters and are extremely rare, and therefore protected.

Australian sea lions spend long periods at sea, usually alternating between diving to find food and resting on the surface of the water. They feed on squid, octopus, fish and crustaceans and are able to dive to great depths in search of food.

The Australian Museum says that “there is some suggestion that they occasionally take penguins”.

Australian sea lions breed on the coast of the Australian mainland and near-shore islands. Females of this species will generally only breed and produce pups on the exact beach where they were born. Timing of the birth of pups is not the same at each site. Young can be born anytime from January to June after a gestation period of about 12 months. Despite the fact that females give birth to only one young and may not breed again for two to three years, pup mortality is high in the first six months after birth. Australian Sea Lions form loose associations within the breeding colonies. Males do not form harems but will guard and then mate with individual females in turn.

We booked into a guided tour called “Ocean Safari” which was quite mis-named because we weren’t on an ocean and we weren’t on safari” in the traditional sense! As mentioned, we saw some very cute Australian Fur Seals. We were lucky though to see the local Common Bottlenose Dolphins (*Tursiops truncatus*) swimming about close to the shore, not more than a few kilometres from Penneshaw. It was great to see them cavorting and feeding as well as in sleep mode which they do automatically. Our guides had plenty of knowledge to pass on us. After that, we headed into Kingscote, the main centre of KI.

On the way home from there we noticed plenty of interesting plants and fungi on the roadside as well as roadkill ranging from freshly hit possums and ‘roos to the skeletal remains of creatures, some of which iNaturalist has struggled to identify

Dead Man’s
Foot *Xylaria*
polymorpha



References:

<https://birdlife.org.au/groups/birdlife-kangaroo-island/>
<https://www.afma.gov.au/protected-species/australian-sea-lions>

Highlights from FNCB Meeting Minutes 7.30pm, July 7, 2023

held in person and via Zoom

President Margaret Rich welcomed 25 members and one visitor attending in person, along with six members attending via Zoom.

Guest Speaker: Club member Emily Noble presented a talk titled “Nature’s Carpet: Mosses and Lichens”. She will also write-up this presentation for the newsletter.

Business Arising from Correspondence: Please welcome Mark Bevelander as the FNCB’s newest member when you get a chance. Discussed query from Discover Creswick re. name of hill upon which Creswick’s RACV Club is built, and rainfall patterns in Creswick. Nobody could add to the information that Roger had supplied to Sandy earlier in the day.

Reports: Treasurer's Report

Opening balance . (as at June 2): \$9,073.45

Income \$331.21

Expenses: \$0.00

Closing bal.: \$9,404.66

Motion: that the Treasurer’s Report be accepted and tabled & invoice for printing be approved for payment.

Moved: K. Elder Seconded: A. Arnold Carried.

General Business • Sunday 9th July field trip, 9.30am-3.30pm:

Moss and lichen study: Surface Hill Historic Area, to be led by club member Emily Noble.

• The field trip to Lake Corangamite and surrounds in September. was updated by John P The full-day trip (8.30am-4.30pm) has now been scoped with leader Leon Bren, with five sites to be visited. They feature fascinating hydrology and history, interesting birds and beautiful scenery. It will take place on Sunday 10th September.

• Consider the future of the Club’s library in light of the options suggested last meeting. The consensus was that the library of books be relocated to the Clare Miller Environment Centre at Clarkesdale Bird Sanctuary, Linton. *Emily will be looking for a bookshelf or two, so please get in touch if you know of anyone who might have one surplus to their requirements.*

Motion: *That the FNCB library be relocated to Clarkesdale Bird Sanctuary after a letter documenting the terms of the “loan” and the full catalogue of books and other publications is drawn up, and each publication is stamped with the FNCB Club Stamp.*

Moved: G. Lunt Seconded: S. Faull Carried.

Motion: *That the Club purchase a rubber stamp with the FNCB Club Logo for this purpose.*

Moved: B. Elder Seconded: C. Dalman Carried.

•

4th August meeting Angela Aldred kindly volunteered to write up Nadiah Roslan's presentation to the Club at our next meeting on the topic of "FrogID (App.): informing frog conservation through citizen science". Thank you, Angela. To promote the presentation to a wider audience, Andy will send some information about the presentation to Fran, from which she will draft a flyer.

There are still plenty of other gaps in the newsletter write-up roster for guest speaker presentations and field trips. Please contact Emily to volunteer to write-up an upcoming talk/ field trip from September onwards. The sooner you volunteer, the better your chance of securing an event of particular interest to you.

Gathering FNCB documents to provide to the Biodiversity Heritage Library for sharing online to the wider community has begun. Kathy and Bill are the only members so far to upload digital copies of club newsletters to the shared Google drive. Kathy has drawn up a list of the newsletters uploaded so far, which Emily will forward to members so they can check their files to see which gaps they could fill. Nina can supply copies of newsletters from 2006-2009.

Claire encouraged members to register to attend the South East Australian Naturalists Association (SEANA) Spring Camp and book their accommodation in Yarram/ Sale ASAP.

Andy asked if any members that had any information about the history of Flax Mill Swamp or any historic photos of the site, particularly featuring the Mill, could they email them to him. He is supporting a Federation TAFE student with their project to write a Management Plan for the reserve which will be provided to the land managers, Parks Victoria, when completed. Nina suggested that it would be worth contacting Kevin Williams at the Historic Society, and others suggested checking historic copies of The Courier, housed at The Mechanics Institute.

Show & Tell/ Field Reports • Carol told us of the diverse range of fungi seen on a recent trip to Wombat Forest and brought along composite images of several of her stunning photos. •

Val showed us photos of Bird's-nest Fungi with spores, Coral Lichen and other Cladonia fruiting bodies as well as a Hexagonia

vesparia bracket fungi found on a trip to Castlemaine with U3A last week. •

Angela A. brought along photos of Bird's-nest Fungi *Nidula niveo-tomentosa* and tiny Cannonball Fungi *Sphaerobolus stellatus* found on decaying logs on the same trip to Walmer Forest, Castlemaine. •

Les brought a sample of the fruiting body of a slime mould that we saw on our field trip to Wombat Forest, pre-fruiting stage. •

Emily reported that the Trim Greenhoods *Pterostylis concinna* have just started flowering at Clarkesdale, with a new colony of 50+ plants found in the Bird Paddock recently. Also in the Bird Paddock, Veined Helmet-orchids *Corybas diemenicus* and Nodding Greenhoods *Pterostylis nutans* are flowering, and a newly discovered colony of endangered Emerald-lip Greenhoods *P. smaragdina* is close to flowering along with Tall Greenhoods *P. melagramma*. •

Prior to the meeting, Neville supplied the exciting report that a platypus was recently seen in the creek at his Chepstowe property for the first time in over 20 years.

Next Meeting: “FrogID: informing frog conservation through citizen science.” This talk will be presented via Zoom by Nadiah Roslan, FrogID Project Coordinator at the Australian Museum. When? Friday 4th August, 2023, 7.30pm in person at the Federation University building at the corner of Gillies St & Gregory St, Wendouree or via Zoom if you prefer.

Meeting closed: 9.13pm

Sun Aug 6th Field Trip to Lal Lal Falls and Historic Areas

Leader Andrew Arnold supported by Graeme Lunt

The convoy/ carpoolers leave from the Fed Uni carpark at 9:30am sharp, for travel to Lal Lal via Buninyong. Another meeting point is at the carpark located EAST of the railway line and level crossing, over the tracks from the former Lal Lal railway station building at 10am sharp. The field trip will commence from here with a brief walk and discussion of local buildings and natural features. We'll stop at two more places before arriving at Lal Lal Historic Area picnic ground for morning tea and toilets, then do another couple of walks. Lunch will be at the Lal Lal Historic Area. After lunch, we will visit four more sites to look at historic and environmental values including Grassy Dry Woodland and the endangered Hairy Anchor Plant population. Wear appropriate clothing and clean boots. You could bring a small mirror, a hand lens, camera and field guides, plus your food and drinks for the day

Excursions and Meetings

Fri Aug 4th Nadiah Roslan, Australian Museum Research Institute
The Frog ID app: growing our knowledge of Aussie frogs at Fed Uni
at 7.30 pm and by Zoom. Nadiah will present via Zoom

Sun Aug 6th Lal Lal Falls and Historic Area plus Moorabool Falls
Leader Andrew Arnold

Future events

Fri 1st Sept Peter & Jenny Sedgewick *By Land and Sea- Gems of
NSW's Far South Coast*

Sun 10th Sept Lake Corangamite led by Leon Bren &
John Petheram

Next Committee meeting Tuesday 22nd Aug at 7.30 pm via zoom

SEANA Camp in Spring (October 20-23). Will be based in Yarram
and hosted jointly by the Latrobe Valley and Sale & District
FN Clubs—book now!

**Club meetings are normally held on 1st Friday of the month at
7.30 pm at the Federation Uni Gillies St Campus (corner of
Gillies and Gregory Sts, Lake Wendouree),**

Committee

President	Margaret Rich
Secretary	Emily Noble
Treasurer	Kathy Elder
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Meetings - in person and may continue to be held via Zoom.
Members will be kept informed of arrangements each month.

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